1   1.   A method comprising:

2   receiving a code address; and

3   querying method metadata for said code address by limiting the search

4   scope within a local memory sub-region of said code address.

1   2.   The method of claim 1, further comprising:

2   partitioning a global method lookup table into smaller and distributed

3   versions for said local memory sub-region.

1   3.   The method of claim 2, further comprising:

2   maintaining a limited set of methods for which codes are allocated within

3   said local memory sub-region for said smaller and distributed version of the global

4   method lookup table.

1   4.   The method of claim 1, further comprising:

2   providing a continuous space to a memory block to locate method

3   metadata; and

4   placing block information regarding said memory block at the beginning

5   of the continuous space.

1   5.   The method of claim 4, further comprising:

2   providing a pointer to a distributed method lookup table from said block

3   information.

1   6.   The method of claim 5, wherein table entries of said distributed method

2   lookup table represent code objects created in said memory block.

1   7.   The method of claim 5, further comprising:

2   providing a virtual machine; and

3   providing a garbage collector for said virtual machine to maintain said

4   distributed method lookup table.

1   8.   The method of claim 1, further comprising:

2   maintaining allocation bits with each of the bits mapped to a legal object

3   address in heap space; and

4   using said allocation bits to identify a code object that encloses an

5   arbitrary code address.

1   9.   The method of claim 8, further comprising:

2   partitioning the allocation bits into subsets for individual memory blocks.

1   10.   The method of claim 9, further comprising:

2   receiving an instruction pointer pointing into some internal address of the

3   code; and

4   locating said code object based on said instruction pointer.

1   11.   A system comprising:

2   a non-volatile storage storing instructions; and

3   a processor to execute at least some of the instructions to provide a virtual

4   machine to receive a code address and query method metadata for said code address by

5   limiting the search scope within a local memory sub-region of said code address.

1   12.   The system of claim 11, wherein said virtual machine to partition a global

2   method lookup table into smaller and distributed versions for said local memory sub-

3   region.

1   13.   The system of claim 12, wherein said virtual machine to maintain a

2   limited set of methods for which codes are allocated within said local memory sub-region

3   for each said smaller and distributed version of the global method lookup table.

1   14.   The system of claim 11, further comprising:

2   a memory block with a continuous space with size of 2^M to locate method

3   metadata and place information regarding said memory block at the beginning of the

4   continuous space.

1   15.   The system of claim 14, further comprising:

2   a pointer to a distributed lookup table from said block information.

1   16.   The system of claim 15, wherein table entries of said distributed method

2   lookup table represent code objects created in said memory block.

1   17.   The system of claim 15, further comprising:

2   a garbage collector for said virtual machine to maintain said distributed

3   method lookup table.

1   18.   The system of claim 11, wherein said virtual machine to maintain

2   allocation bits with each of the bits mapped to a legal object address in heap space and

3   use said allocation bits to identify a code object that encloses an arbitrary code address.

1   19.   The system of claim 18, wherein said virtual machine to partition the

2   allocation bits into subsets for individual memory blocks.

1   20.   The system of claim 19, wherein said virtual machine to receive an

2   instruction pointer pointing into some internal address of the code and locate said code

3   object based on said instruction pointer.

1   21.   An article comprising a computer readable storage medium storing

2   instructions that, when executed cause a processor-based system to:

3   receive a code address; and

4   query method metadata for said code address by limiting the search scope

5   within a local memory sub-region of said code address.

1   22.   The article of claim 21, comprising a medium storing instructions that,

2   when executed cause a processor-based system to:

3   partition a global method lookup table into smaller and distributed

4   versions for said local memory sub-region.

1   23.   The article of claim 22, comprising a medium storing instructions that,

2   when executed cause a processor-based system to:

3   maintain a limited set of methods for which codes are allocated within said

4   local memory sub-region for said smaller and distributed version of the global method

5   lookup table.

1   24.   The article of claim 21, comprising a medium storing instructions that,
2   when executed cause a processor-based system to:
3   provide a continuous space to a memory block to locate method metadata
4   placing block information regarding said memory block at the beginning of the
5   continuous space.

1   25.   The article of claim 24, comprising a medium storing instructions that,
2   when executed cause a processor-based system to:
3   provide a pointer to a distributed method lookup table from said block
4   information.

1   26.   The article of claim 25, comprising a medium storing instructions that,
2   when executed cause a processor-based system to:
3   represent code objects created in said memory block as table entries of
4   said distributed method lookup table.

1   27.   The article of claim 25, comprising a medium storing instructions that,
2   when executed cause a processor-based system to:
3   provide a virtual machine; and
4   provide a garbage collector for said virtual machine to maintain said
5   distributed method lookup table.

1   28.   The article of claim 21, comprising a medium storing instructions that,
2   when executed cause a processor-based system to:
3   maintain allocation bits with each of the bits mapped to a legal object
4   address in heap space; and

5   use said allocation bits to identify a code object that encloses an arbitrary

6   code address.

1   29.   The article of claim 28, comprising a medium storing instructions that,

2   when executed cause a processor-based system to:

3   partition the allocation bits into subsets for individual memory blocks.

1   30.   The article of claim 29, comprising a medium storing instructions that,

2   when executed cause a processor-based system to:

3   receive an instruction pointer pointing into some internal address of the

4   code; and

5   locate said code object based on said instruction pointer.